PRIMARY METERING CABINET, 27 KV, THREE PHASE, PADMOUNT

1. Scope

1.1 This specification is for a self-contained, totally enclosed, dead-front, outdoor, padmount, 27 kV, three-phase metering assembly with voltage transformer fusing.

1.2 This metering cabinet is intended for use on a 26.4 kV, three-phase, Hertz, grounded, neutral underground distribution system.

2. General

2.1 Except as modified by this specification, the metering cabinet furnished shall comply with the material and testing requirements of the latest revisions of all applicable standards by ANSI, IEEE, and NEMA.

2.2 The manufacturer shall provide sufficient notice to allow Seattle City Light representatives to inspect the metering cabinet during its manufacture, if requested.

3. Ratings

3.1 The rating of the entire metering assembly shall be 27 kV.

3.2 The metering cabinet shall have a continuous current rating of 200 amperes. It shall have a minimum, one-time, fault-closing, duty cycle of 20,000 amperes asymmetrical at 27 kV.

4. Insulation

4.1 The basic impulse insulation level shall be 125 kV BIL.

4.2 The maximum RIV at 1,000 kHz shall be 100 microvolts when energized at rated voltage.

5. Voltage and Current Transformers

5.1 Seattle City Light will provide and install the voltage transformers and the current transformers.

5.2 The metering cabinet shall be designed for the installation of three General Electric outdoor type JVW-6 voltage transformers and three General Electric outdoor type JKW-6 current transformers.

6. Fuse provisions

6.1 Seattle City Light will provide and install the fuses.

6.2 The metering assembly shall have provisions for three fuses for the voltage transformers. The fuse mountings shall be Cooper Power Products catalog number FABOL D8, mounting code number 6.

7. Primary Bushings

7.1 The primary bushings shall consist of 25 kV bushing wells with replaceable studs. The bushing wells shall have a rating of 200 amperes, 125 kV BIL and shall be suitable for operation on a 26,400 Grd. Y/15,240 volt system. The bushing wells shall meet the applicable requirements of the latest revision of ANSI/IEEE 386.

7.2 The bushing wells shall include hold down bails tabs. For clamp-type bushing wells that include bail tab holes in the clamping ring, the bail tab holes shall be on the same plane as the surface of the bushing well.

7.3 The bushing wells shall have a cover or cap to prevent the entrance of moisture or dirt during shipping or storage. The covers shall be secured in a manner that prevents loss. e.g., wire from bail tab to bail tab.

7.4 Load break parking stands per ANSI C57.12.26-1987, Section 7.2.3 and Figure 5 shall be provided. The parking stands shall not be coated with paint or other materials that preclude the installation of a standoff bushing.

8. Interlocks and Barriers

8.1 Each metering cabinet shall have a removable back barrier to guard against inadvertent contact with the live parts.

8.2 All phase separation panels and barriers shall be of inert material.

9. Neutral Bushing

9.1 The metering cabinet shall have one insulated neutral bushing which extends through the equipment firewall.

9.2 The fault duty capability of the neutral bushing shall be a minimum of 20,000 amperes for 12 cycles.

9.3 The neutral bushing shall have a copper pad on each end. The two copper pads shall each be 2" x 3-1/2" with two 9/16" holes spaced 1-3/4" on center.

10. Grounding Pads

10. 1 The metering cabinet shall have two grounding pads, one on each side of the equipment.

10.2 The fault duty capability of each grounding pad shall be a minimum of 20,000 amperes for 12 cycles.

10.3 The grounding pads shall consist of an unpainted, copper-faced steel or stainless steel pad, 2” x 3-1/2” with two 9/16" - 13 NC holes spaced on a 1-3/4” center. The pads shall be welded to the frame, one in each of the two compartments.

11. Buses

All buses shall be of copper or aluminum. Buses wrapped with organic material will not be permitted. All joints shall have suitable hardware and treatment to prevent harmful oxidation and loss of optimum contact pressure.

12. Enclosure

12.1 The enclosure shall meet all of the requirements for enclosure security required by ANSI C57.12.28.

12.2 Access to the unit for maintenance shall be through the rear doors. The doors shall be secured with a padlock shackle and penta head bolts for back-up protection.

12.3 The cabinet shall be 300 series stainless steel 11 gauge (0.12 inches) minimum thickness.

12.4 The maximum enclosure width shall be 66". The maximum enclosure depth shall be 75”.

12.5 The entire underside of the roof shall be coated with a "no-drip" asphalt-base mastic, minimum 1/8" thick.

12.6 A hole for a 3/4” bushing shall be punched in the firewall near the bottom of the cabinet adjacent to the neutral bushing.

12.7 The minimum inside depth of the dead front side of the cabinet shall be 16”.

13. Paint Finish

13.1 The color of the finish coat will be Munsell 7GY 3.29/1.5 padmount green.

13.2 The paint coating system shall meet all of the enclosure coating system performance requirements of ANSI C57.12.28.

MATERIAL STANDARD

14. Data to be Submitted with Bid

Each bidder shall submit with its proposal the data listed below. The bidder shall submit a description of any changes, additions, or exceptions to this specification it proposes, together with the reasons for the departure. Product evaluation and conformance to specification will be determined on the basis of the information submitted. The drawings and data furnished must be sufficient in detail and clarity to enable making a complete and positive check with the technical provisions of this specification.

(a) Outline drawings with overall dimensions including those dimensions described in Section 12.4.

(b) Information concerning details of construction including type of stainless steel to be used.

(c) Total weight of metering assembly.

(d) Indicate construction and testing compliance per latest revision of ANSI C57.12.28.

15. Data to be Furnished by Successful Bidder

The successful bidder shall supply:
(a) Outline drawings with overall dimensions; see Section 12.4.

(b) One certified copy of the enclosure security performance tests required by ANSI C57.12.28 only when requested.

16. Guarantee

If any part of this equipment fails due to defective design, material, and/or workmanship within 24 months after delivery, it shall be replaced without cost to Seattle City Light.

17. Approved Manufacturer

Scott Engineering Drawing 130507-R1

SCL Stock No. 682893